Raster charts near approval

THERE is unlikely to be extensive ENC coverage for several years at least. Some sources have even quoted times as long as ten to 15 years before there is suitable worldwide coverage. This has meant that the raster chart has been looked at as an interim measure, although to-date there is no internationally accepted standard for these charts. However, this could be about to change, when the IMO again considers the legal status of the proposed Raster Chart Display System (RCDS) at its Safety of Navigation sub-committee meeting (NAV 44), to be held in July.

The standard, if approved, would pave the way for RCDS systems using official (data from or approved by a national hydrographic office) raster charts to fulfil the carriage requirements of SOLAS V 20 regulations. The issue had already been discussed at IMO's Safety of Navigation sub-committee meeting (NAV 43) last year, but some national administrations felt there was insufficient experience to prove the safety of RCDS, so a consensus was not reached. Administrations were encouraged to obtain additional feedback and report back to IMO at NAV 44. Andy Norris, director and general manager of ChartCo, told *Fairplay* that approval might be given this time around.

Tests on RCDS as the primary aid to navigation have been going on for about two years. The chemical tanker *Dutch Faith* was the first vessel to legally use the system. The Dutch authorities gave permission on three conditions: a completely independent back-up RCDS had to be installed; the systems must use official chart data, and a small number of paper charts (less than ten per cent of the full chart outfit) should also be carried.

Two similar vessels, *Dutch Spirit* and *Stella Wega*, were subsequently fitted with the system. Between them, these vessels have successfully sailed more than 300,000 nautical miles, resulting in the Dutch authorities informing IMO that it had given permission for the ships to operate permanently this way.

Other vessels that have been trading using RCDS and ARCS charts include the Master Lemmers containerships *Sea Baltica* and *Sea Nordica* and Arklow Shipping's *Arklow Castle*. The master of *Arklow Castle* stated, "Without doubt the RCDS with ARCS, if used with confidence, is far superior, more accurate, less time-consuming and safer to the all-round navigation of the vessels than more conventional means of navigation."

The UK Marine Safety Agency (MSA) has also authorised 15 vessels to undertake RCDS trials. The vessels include ferries, oil and product tankers, research ships and dredgers from companies such as BP, FT Everard, P&O and Shell. This mixture of vessels should provide an abundance of information on the performance of RCDS.

In addition, feedback is being sought from other raster-fuelled systems; the UKHO is contacting about 200 SOLAS vessels using ARCS, and other countries, notably the US and Australia, which also have established raster chart services, are collecting information to present to the IMO at NAV 44.

The likelihood of electronic charts in the form of ECDIS replacing paper in the next 20 or so years seems to be very slim. However, if NAV 44 gives the go-ahead for raster charts to be used, then it is likely that the 'dual fuel' system, offering a combination of both official vector and raster-based data, will be adopted. Raster-based data will be used in the absence of any vector data, but will give way to ENC as the latter becomes available.

However, in some parts of the world, such as minor ports well away from major shipping lanes this data might never exist. Rex May, UKHO's head of ENC marketing, points out that for "data in areas where boundary disputes exist, including some of the world's most important international straits, ENC cannot be produced until the national hydrographic authorities involved can reach agreement about who is to approve the data."

To maintain a world-wide coverage of official digital charts, without resorting to paper charts for areas not covered by ENC, the user will have to use 'dual fuel' raster/vector systems. Integrated bridge systems have already been developed by a number of manufacturers to handle both types of chart.

Dutch Spirit, operated by Broere Shipping, was one of the first ships to operate legally with electronic charts as its main navigation system